CREATING FAIR HOUSING METRICS AND MILESTONES USING AFFIRMATIVELY FURTHERING FAIR HOUSING (AFFH) DATA

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ABSTRACT

With the recent overhaul of Affirmatively Furthering Fair Housing (AFFH) policy by the U.S. Department of Housing and Urban Development (HUD), jurisdictions that receive federal HUD funding are now provided with an array of tools and data necessary to conduct the analysis of fair housing issues specific to their area. They have been asked by HUD to form fair housing goals based on their findings from using the tools and data, but little guidance has been given on how a jurisdiction sets reasonable metrics and milestones in order to show whether its goals have been met. In this paper, I use the HUD-provided AFFH data for Gwinnett County, Georgia to determine ways of 1) assessing fair housing issues and 2) setting clear and reasonable metrics and milestones.

PART I: INTRODUCTION

The implementation of AFFH policy has been a problematic task for HUD in the past. Since the U.S. Government Accountability Office (GAO) released a report in 2010 documenting the substantial ineffectiveness of the Analysis of Impediments (AI)—the former process that HUD used to assess fair housing—HUD has worked to create a process that corrects for errors associated with the previous approach. In July 2015, HUD announced that they would be replacing the AI with an improved approach known as the Assessment of Fair Housing (AFH). Among the many changes that HUD made in developing the AFH, it added a rule that requires program participants to identify metrics and milestones for determining fair housing goals.

However, despite HUD's effort to provide detailed instructions on the analysis process as a whole with a comprehensive 131-page guidebook designed to help program participants complete their AFH (U.S. Department of Housing and Urban Development, 2015), it appears to have intentionally crafted the directions for setting metrics and milestones to be open-ended and ambiguous. As opposed to mandating specific measures through the AFH process, HUD argues that it was important to recognize the importance of local decision-making[1], and left the responsibility for setting metrics, benchmarks and milestones to overcome fair housing issues to the program participants.

Given this flexibility in the AFH, each program participant must determine benchmarks and timeframes that are reasonable within the specific needs and context of its jurisdiction. Instead of setting arbitrary or unrealistic goals, program participants should be able to use the AFFH data to create stronger goals that are based on actual data. In this paper, I look at ways in which a program participant can set practical fair housing goals through AFFH data analysis. Using Gwinnett County, Georgia as my case study, I determine ways of 1) assessing the fair housing activities and 2) setting clear and reasonable metrics and milestones.

[1] Federal Register, Vol. 80, No. 136, page 42288

PART II: BACKGROUND

WHAT IS AFFH POLICY?

Mandated by Section 808(e)(5) of the Fair Housing Act (Title VIII of the Civil Rights Act of 1968), AFFH policy requires that HUD programs and activities be administered in a manner that affirmatively furthers the policies and principles of the Act by fostering meaningful action aimed at overcoming the legacy of segregation, unequal treatment, and historic lack of access to opportunity in housing. The "affirmatively further" provision was written to address the longstanding practices of federal government agencies, as well as local governments and public housing authorities (PHAs) that received federal housing funds but had intentionally promoted racial segregation in both the private market and the siting of public housing (Collins, 2010).

Despite the statutory and regulatory policies that have been enacted to address Section 808(e)(5), the affirmatively furthering fair housing (AFFH) provision remains largely ineffective in practice. Racial discrimination and segregation continue to pervade federally funded housing programs, as evidenced by numerous civil complaints and lawsuits against various public housing authorities across the country, including the recent Supreme Court case on disparate impact in Texas Department of Housing and Community Affairs v. The Inclusive Communities Project, Inc. By replacing the AI with the AFH and establishing a number of changes to enhance the process's usefulness and substance, HUD hopes to empower program participants by establishing basic parameters and helping to "guide public sector housing and community development planning and investment decisions to fulfill the obligation to affirmatively further fair housing"[2].

HOW DOES AFFH POLICY AFFECT JURISDICTIONS?

In order to carry out their AFFH obligation, HUD requires jurisdictions to perform an analysis of the fair housing issues specific to their areas by completing the AFH[3]. Unlike with the former AI, program participants are now required to submit their AFH to HUD for approval. Failure to submit an acceptable AFH could result in the loss of funds to which the jurisdiction would otherwise be entitled.

[2] Federal Register, Vol. 80, No. 136, page 42288

[3] The rule defines a "fair housing issue" as "a condition in a program participant's geographic area of analysis that restricts fair housing choice or access to opportunity, and includes such conditions as ongoing local or regional segregation or lack of integration, racially or ethnically concentrated areas of poverty, significant disparities in access to opportunity, disproportionate housing needs, and evidence of discrimination or violations of civil rights law or regulations related to housing." 24 C.F.R. § 5.152

WHAT IS THE ASSESSMENT OF FAIR HOUSING (AFH)?

The AFH is an analysis that must be conducted by program participants in order to assess the fair housing issues and contributing factors within their jurisdictions. This approach to fulfilling the AFFH mandate is intended to help program participants be better able to "1) evaluate their present environment to assess fair housing issues such as segregation conditions that restrict fair housing choice, and disparities in access to housing and opportunity, 2) identify the factors that primarily contribute to the creation or perpetuation of fair housing issues, and 3) establish fair housing priorities and goals" (U.S. Department of Housing and Urban Development, 2015). The content of the AFH includes:

1. Summary of fair housing issues and capacity
2. Analysis of data
3. Assessment of fair housing issues
4. Identification of fair housing priorities and goals
5. Strategies and actions
6. Summary of community participation
7. Review of progress achieved since submission of prior AFH (U.S. Department of Housing and Urban Development, 2015)

For the purposes of this study, I focus primarily on Item #4, "Identification of fair housing priorities and goals".

WHAT IS THE AFFH DATA AND MAPPING TOOL, AND WHY DOES HUD PROVIDE IT?

In order to assist jurisdictions with the completion of the AFH and identification of fair housing issues, HUD has created a new online tool that provides maps and tables with both jurisdiction-level and region-wide information. The maps help users to visualize the data within a geographic area, and the tables contain the data represented in the maps. While the tool is fast and easy to navigate, its ability to provide finer information (such as census tract level data) is limited. Thus, I rely on the AFFH raw data that is provided by HUD to conduct the analysis.

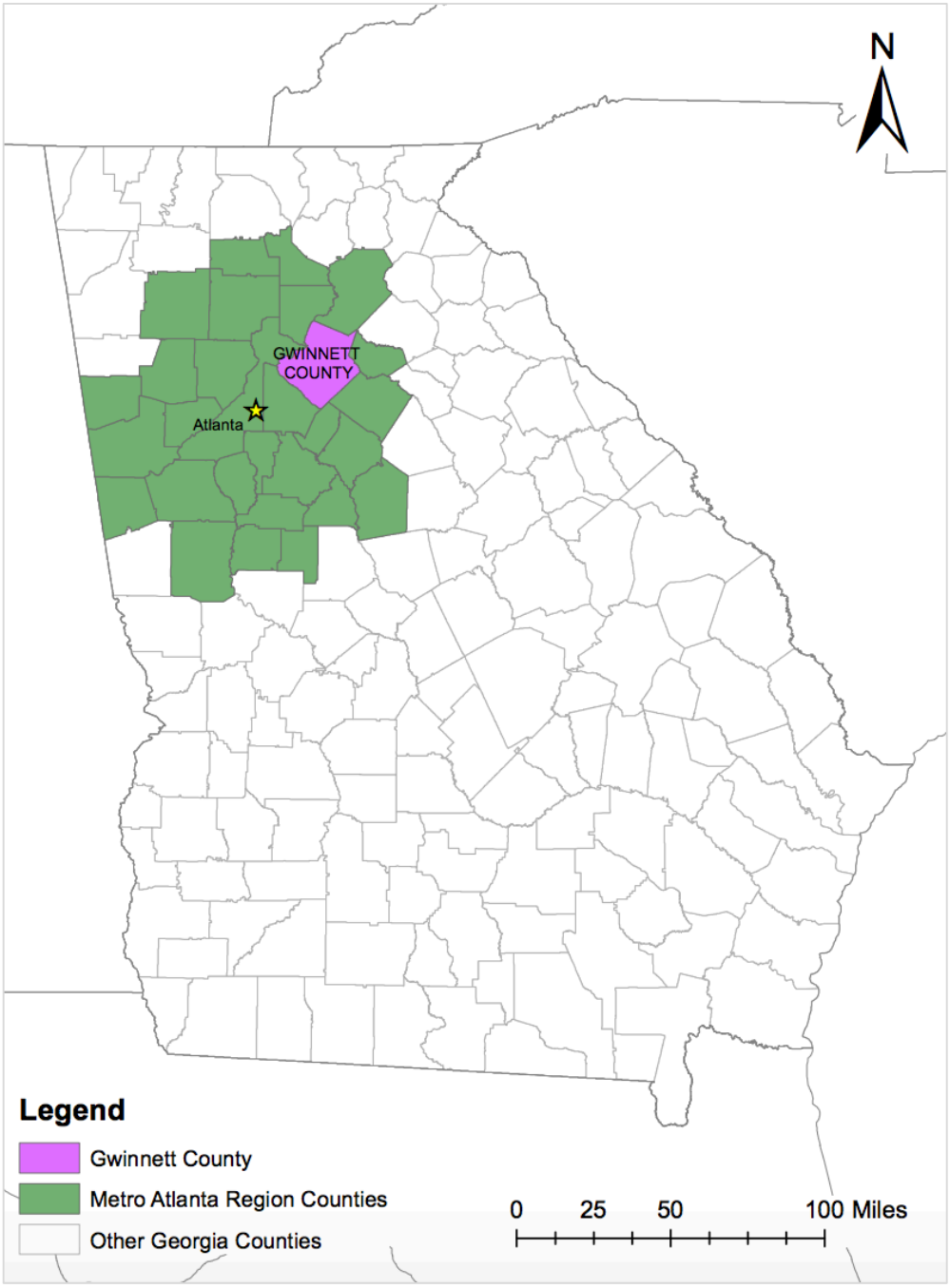
PART III: CASE STUDY DESCRIPTION

OVERVIEW

The data analysis here is conducted using AFFH data for Gwinnett County, Georgia (see Figure 1 for location within state), a large suburban county and an entitlement community. Gwinnett County is the second most populous county in the Atlanta Metro region with a population of approximately 842,091 (U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates). It is the most racially and ethnically diverse county in the region (as well as the state), making it a rich study for

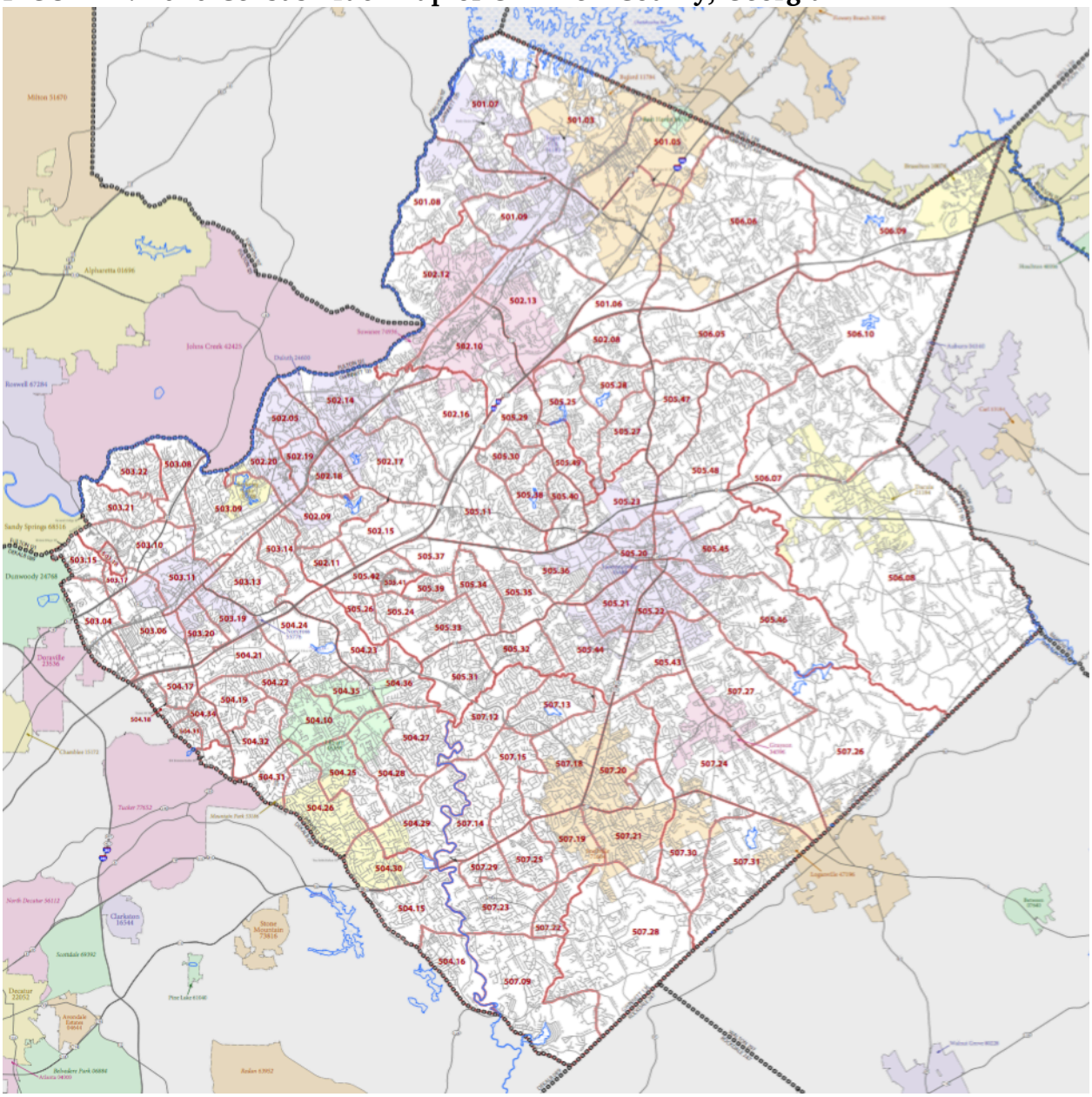
measuring levels of segregation and whether different races and ethnicities are affected differently by the availability of subsidized housing, disparities in access to opportunity, and disproportionate housing needs. The analysis is based on census tract level data, and there are 113 census tracts total within the county as seen in Figure 2 below.

FIGURE 1: Gwinnett County in Georgia County Map



Source: Atlanta Regional Commission Open Data

FIGURE 2: 2010 Census Tract Map of Gwinnett County, Georgia



Source: U.S. Census Bureau

DEMOGRAPHIC TRENDS

Table 1 contains the basic demographics of the county for 1990, 2000, and 2010, provided by the AFFH Mapping and Data Tool. They show the rapid changes in race/ethnicity within the county as well as the significant increase in foreign-born residents and residents of limited English proficiency. One of the most notable shifts in demographics is the massive decline in the White population, from 89.43 percent in 1990 to 44.06 percent (less than half of the 1990 proportion) in 2010. Concurrently, the

other notable shift in demographics is the rise in minority populations, including Black, Hispanic, and Asian/Pacific Islander.

TABLE 1: Demographic Trends in Gwinnett County, Georgia

	(Gwinnett County, GA CDBG, HOME, ESG) Jurisdiction					
	1990		2000		2010	
Race/Ethnicity	**#**	**%**	**#**	**%**	**#**	**%**
White, Non-Hispanic	317,747	89.43	398,453	67.18	355,467	44.06
Black, Non-Hispanic	17,963	5.06	79,828	13.46	184,547	22.87
Hispanic	8,423	2.37	64,242	10.83	162,007	20.08
Asian or Pacific Islander, Non-Hispanic	10,077	2.84	45,321	7.64	85,048	10.54
Native American, Non-Hispanic	635	0.18	2,447	0.41	1,527	0.19
National Origin						
Foreign-born	17,834	5.02	99,645	16.80	206,089	25.42
LEP						
Limited English Proficiency	9,726	2.74	61,152	10.31	116,589	14.38
Sex						
Male	176,595	49.71	298,569	50.34	397,689	49.29
Female	178,659	50.29	294,511	49.66	409,130	50.71
Age						
Under 18	99,517	28.01	171,229	28.87	234,723	29.09
18-64	238,916	67.25	390,325	65.81	516,239	63.98
65+	16,821	4.73	31,526	5.32	55,857	6.92
Family Type						
Families with children	53,645	54.96	49,972	55.20	112,356	55.20

Source: HUD AFFH Data and Mapping Tool

Another reason Gwinnett County makes for an interesting study, especially in terms of fair housing issues and policy, is that it is one of the fastest growing counties in the region as well as the nation. In 2015, a U.S. Census Bureau report found that Gwinnett County was the 94th fastest growing county in the U.S. (Duncan, 2015). From 2000 to 2010, the county population grew by over 200,000 residents, jumping from 588,488 in 2000 to 805,321 in 2010. Furthermore, these population increases have occurred among the minority populations within the county and in despite of a declining White population, as demonstrated by the demographics data above. From 2000 to 2010, Gwinnett County turned into a majority-minority jurisdiction, with the White non-Hispanic population dropping from 67.18 percent to 44.06 percent.

A 2015 study by the Pew Research Center found that 77 other counties across the nation also shifted to majority minority places from 2000 to 2013. Metro Atlanta counties, including Gwinnett, made up four of the top ten counties in terms of percentage point change in the non-Hispanic White population (Krogstad, 2015). As these rapidly changing shifts in population demographics occur, in order to make improvements upon the issues affecting fair housing, these county will need to stay informed and be able to anticipate and plan for subsidized housing in such a way that

affirmatively furthers fair housing. In order to provide context for the remainder of the paper, the distribution of the minority populations in Gwinnett County are depicted in Figures 3A through 3C and can be compared against the distribution of poverty in Figure 3D.

FIGURE 3A: Black Population

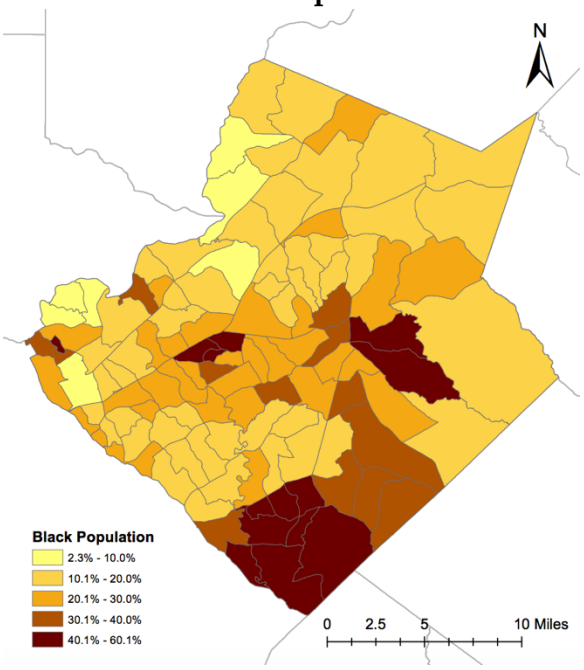


FIGURE 3B: Asian Population

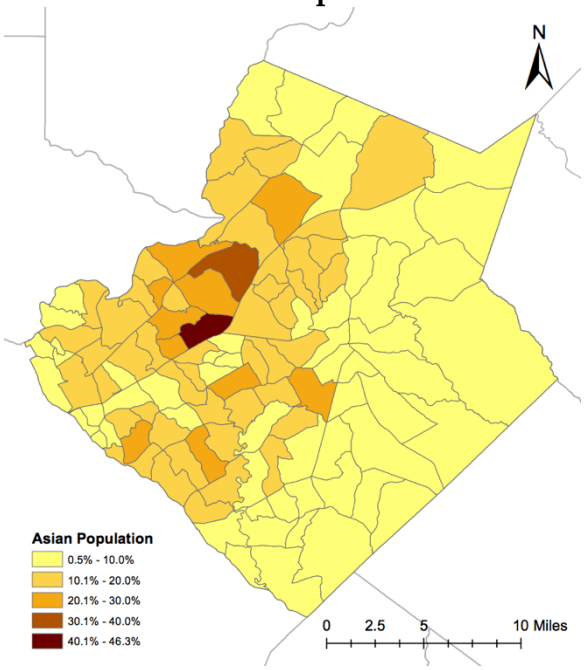


FIGURE 3C: Hispanic Population

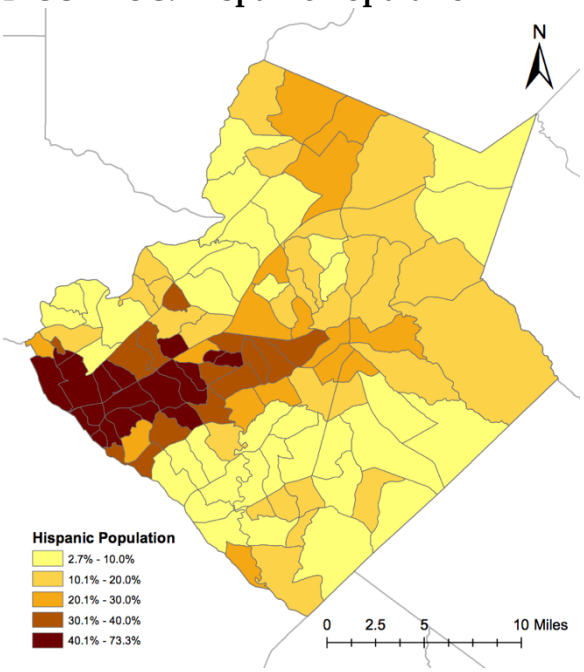
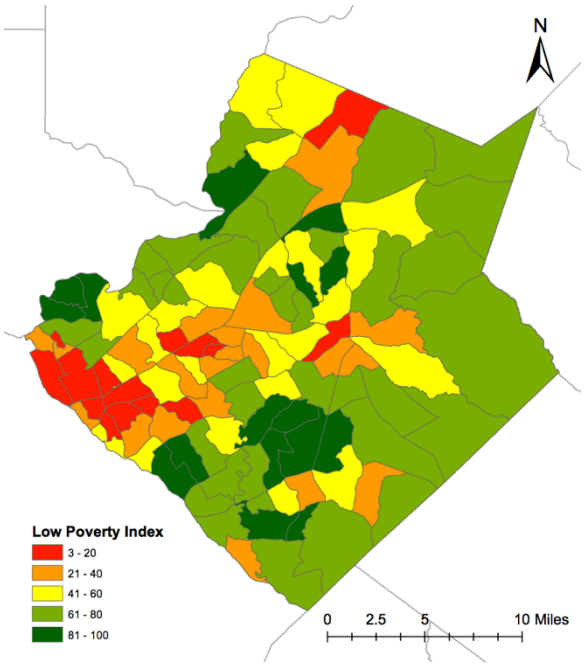


FIGURE 3D: Low Poverty Index



Source: Map made by author using AFFH raw data provided by HUD

HOUSING CHARACTERISTICS

Figures 4A and 4B illustrate the distribution of owner-occupied units and renter-occupied units, respectively, by census tract in Gwinnett County. This data and their patterns of distribution will be important for analyzing fair housing data since federally subsidized housing is typically rental housing.

FIGURE 4A: Owner-Occupied Units

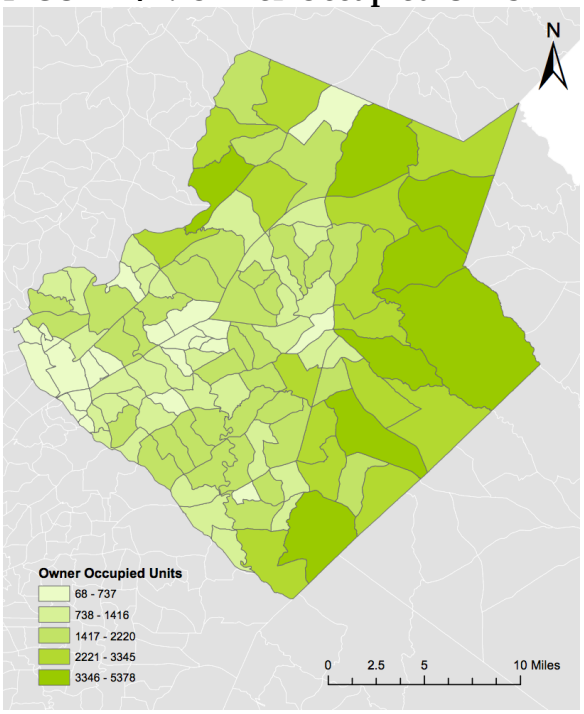
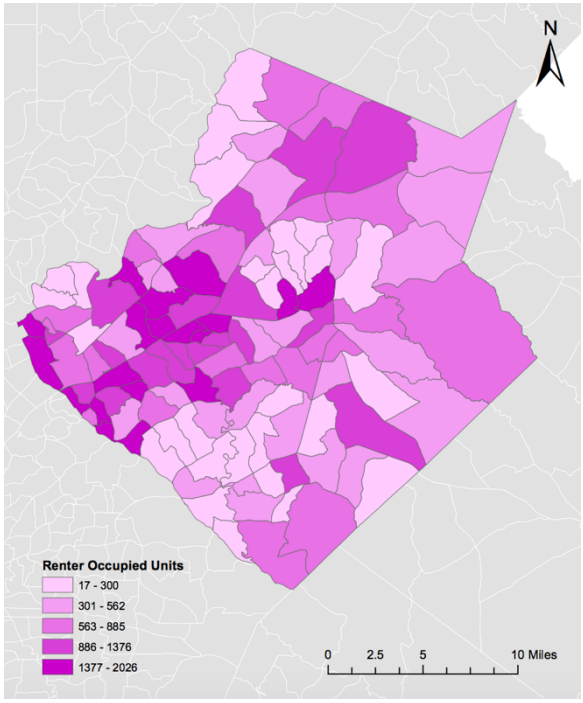


FIGURE 4B: Renter-Occupied Units



Source: Map made by author using data from 2010 American Community Survey, U.S. Census Bureau

There are a total of 6,898 federally subsidized housing units for low- and moderate-income households in Gwinnett County. These include housing choice vouchers, project-based Section 8 housing, public housing, and Low-Income Housing Tax Credit (or "LIHTC") units. The table below shows the housing unit count of each type of subsidized housing program as well as the general target tenant population. LIHTC units are the most common type of subsidized housing, accounting for over half of all subsidized housing units. They are followed by housing choice vouchers as the second most common. Since LIHTC units primarily serve low- and moderate-income tenants, housing choice vouchers are the most widely available option for very low-income tenants.

It is worth noting here an assumption that was made regarding the LIHTC housing units. In the AFFH raw data, LIHTC information is provided in a list format by project. Since several LIHTC projects are mixed-income, the fields include total housing unit counts as well as low-income housing counts. However, the low-income housing

count was left out for nine out of 21 LIHTC developments in Gwinnett County, which totaled 1670 units. Since these numbers were not reported, the assumption was made that these projects were 100 percent low-income, thus all 1670 units (in addition to the low-income units that were reported) are counted in this study. It is very possible that a number of these units are market rate.

TABLE 2: Subsidized Housing Units Summary

Subsidized Housing Type	Target Population	Unit Count
Housing Choice Vouchers	Low-income (<30% AMI)	2,007
Project-based Section 8	Low-income (<30% AMI)	551
Public Housing	Low-income (<30% AMI)	428
LIHTC	Low and moderate-income (<60% AMI)	3,912
TOTAL		**6,898**

Figures 5A through 5D depict the distribution of the federally subsidized housing units across the county. As seen in Figure 5A, housing choices vouchers allow tenants greater freedom to choose the part of the county in which they will live. This is due to the fact that theoretically they allow households to rent wherever a landlord will accept a voucher[4]. Since the other three types of subsidized housing are tied to certain developments that are typically multifamily, their locations are limited to a much smaller number of developments.

No stark patterns emerge from the collective distribution of the subsidized units, but they are fairly concentrated around the center of the county. Along the eastern side of the county, almost no subsidized housing exists, with the exception of a few housing choice vouchers. When compared to the owner-occupied and renter-occupied maps above, this area is found have the greatest number of owner-occupied housing.

[4] Neither Georgia nor Gwinnett County have any "source of income" protection laws that prohibit housing discrimination based on source of income; thus, landlords can refuse to accept housing choice vouchers.

FIGURE 5A: Housing Choice Vouchers

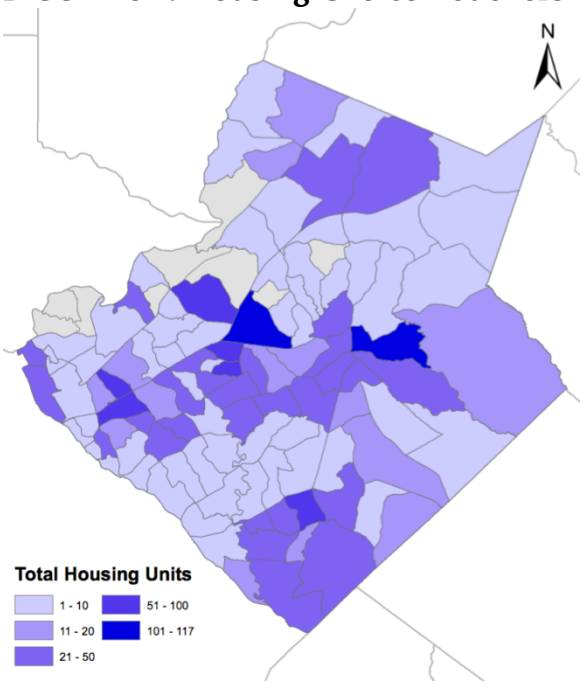


FIGURE 5B: Project-based Section 8

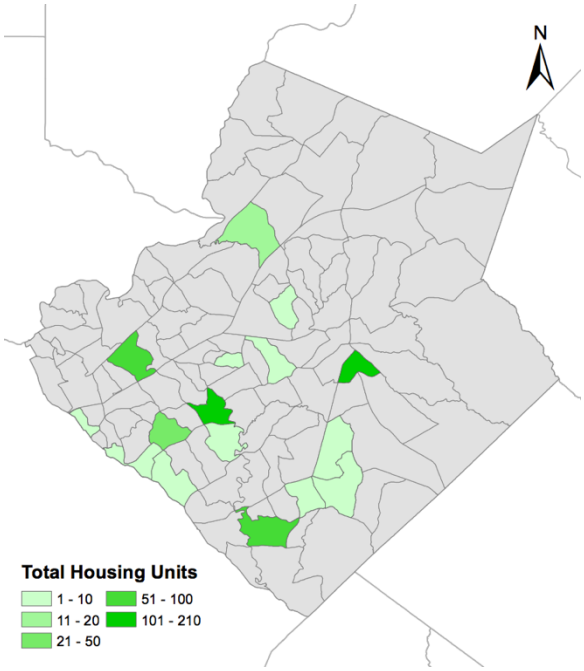


FIGURE 5C: Public Housing

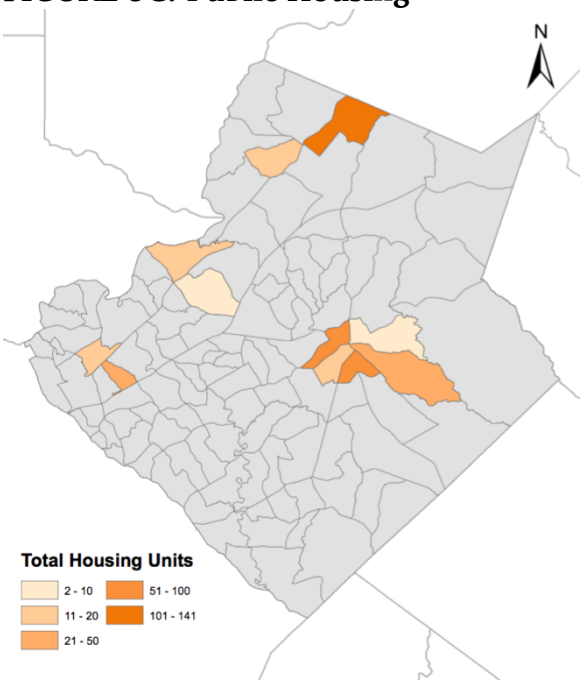
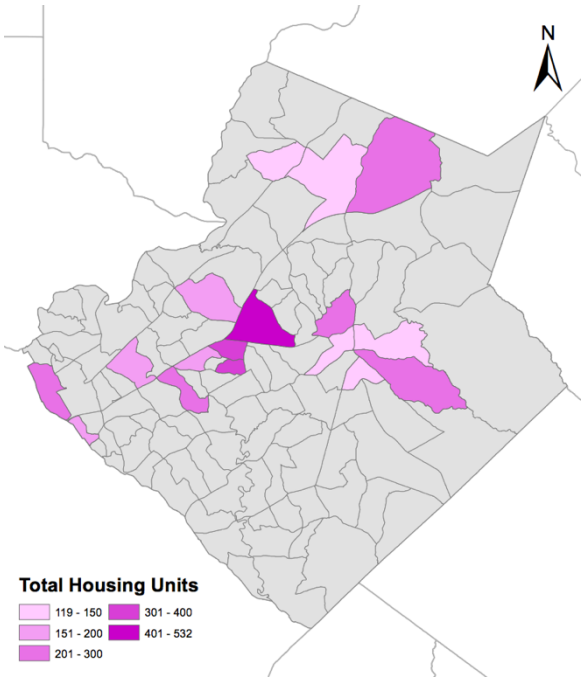


FIGURE 5D: LIHTC



Source: Map made by author using AFFH raw data provided by HUD

PART IV: METHODOLOGY

THE RATIO METHOD: MEANING AND PROCESS

In the AFH, HUD organizes the assessment of general fair housing issues into four categories: 1) segregation/integration, 2) racially/ethnically concentrated areas of poverty (or "R/ECAPs)[5], 3) disparities in access to opportunity, and 4) disproportionate housing needs. For this paper, the data is assessed using the same categorization, with one exception; because only two out of the county's 113 census tracts are considered R/ECAPs (not enough to be a significant factor in Gwinnett County's fair housing issues), R/ECAPs were omitted from this study. The indicators used in the remaining three category include:

1. Segregation/integration: 2010 White, Black, Hispanic, and Asian/Pacific Islander population data
2. Disparities in access to opportunity: Low Poverty Index, Labor Market Index, Environmental Health Index, Low Transportation Cost Index, and Transit Trip Index data
3. Disproportionate housing needs: Households with one or more housing problems, households with one or more severe housing problems, and households with severe housing cost burden data

The data for each of these indicators was gathered using the AFFH raw data provided by HUD. While the data are not directly accessible through the AFFH Data and Mapping Tool, they can be accessed at this HUD Exchange webpage: https://www.hudexchange.info/resource/4868/affh-raw-data/.

For each census tract, the total number of federally subsidized units for low-income households was calculated as well as the percent of federally subsidized units for low-income households out of the entire county[6]. Next, census tract counts for low income households, and the percentage of low-income households within the census tract out of the entire county was also calculated. To determine if low-income federally subsidized units were evenly distributed compared to the distribution of the population eligible for such units, a ratio comparing the percentage of federally subsidized low-income units to the percentage of low-income households was determined for each census tract.

[5] A R/ECAP is defined by a racial/ethnic concentration threshold and a poverty test. The racial/ethnic concentration threshold for a R/ECAP is a non-white population of 50 percent or more. The poverty rate for a R/ECAP must exceed 40 percent or three times the average tract poverty rate for the metropolitan/micropolitan area, whichever threshold is lower.

[6] Federally subsidized units for low-income households include housing choice vouchers, public housing, and Section 8 rehabilitation and new construction, as they are generally intended for households that make 30 percent of area median income (AMI) or less.

To provide an example of the aforementioned calculations, the table below shows the counts and percentages for low-income federally subsidized units, households with income less than $20,000[7], and the resulting ratios for ten census tracts in Gwinnett County. The ratios indicate if low-income subsidized housing is spatially distributed in a way that matches the distribution of actual low-income households, the population that would use such housing opportunities. A ratio less than 1.0 means that the tract's share of subsidized, low-income units is less than its share of low-income households. A ratio greater than 1.0 means that the tract's share of subsidized units is greater than its share of the corresponding population.

TABLE 3: Sample Calculations Comparing Federally Subsidized Low-Income Housing Units to Low-Income Households in 2010[8]

Census Tract	Total Subsidized Low Income Units (A)	% of all Subsidized LI Units in Gwinnett (B)	Households w/ Income <$20,000 (C)	% of all Households w/ Income <$20,000 in Gwinnett (D)	Ratio (B/D)
13135050103	14	0.47%	477	1.66%	0.28
13135050105	143	4.79%	405	1.41%	3.40
13135050106	25	0.84%	488	1.70%	0.49
13135050107	4	0.13%	129	0.45%	0.30
13135050108	1	0.03%	277	0.96%	0.03
13135050109	38	1.27%	189	0.66%	1.93
13135050205	3	0.10%	227	0.79%	0.13
13135050208	8	0.27%	95	0.33%	0.81
13135050209	7	0.23%	423	1.47%	0.16
13135050210	13	0.44%	220	0.77%	0.57

Source: Author's calculations using U.S. Census Bureau American Community Survey data and HUD AFFH data

The next example shows similar calculation but instead compares the data for federally subsidized housing units for moderate-income households and households with income between $20,000 and $35,000. To determine the number of federally subsidized housing units for moderate-income households within a census tract, the number of low-income housing tax credit (LIHTC) units were calculated, as they are generally intended

[7] Gwinnett County AMI was $63,219 in 2010, which would make 30 percent of AMI $18,966. Since the U.S. Census Bureau only reports households within certain income ranges, I used a household income range of $0-$20,000 to define a low-income household.

[8] Data for low-income households provided by U.S. Census Bureau, 2006-2010 American Community Survey, not HUD AFFH data.

for households making 60 percent of AMI or less[9]. Because LIHTC developments typically involve multifamily housing projects often greater than 100 units, the moderate-income units are clumped in a select few census tracts. This pattern creates a notable imbalance in the distribution of subsidized moderate-income units, as these select few census tracts contain as much as 13.6 percent of all subsidized moderate-income units in the county while the majority of census tracts contain none.

TABLE 4: Sample Calculations Comparing Federally Subsidized Moderate-Income Housing Units to Moderate-Income Households in 2010[10]

Census Tract	Total Moderate Income (LIHTC) Units (A)	% of all MI Units in Gwinnett (B)	Households w/ Income $20,000-$34,999 (C)	% of all Households w/ Income $20,000-$34,999 in Gwinnett (D)	Ratio (B/D)
13135050103		0.00%	520	1.11%	0.00
13135050105		0.00%	181	0.39%	0.00
13135050106	119	3.04%	528	1.13%	2.70
13135050107		0.00%	188	0.40%	0.00
13135050108		0.00%	264	0.56%	0.00
13135050109	130	3.32%	230	0.49%	6.76
13135050205		0.00%	313	0.67%	0.00
13135050208		0.00%	481	1.03%	0.00
13135050209		0.00%	587	1.25%	0.00
13135050210		0.00%	414	0.88%	0.00

Source: Author's calculations using U.S. Census Bureau American Community Survey data and HUD AFFH data

The maps on the next page depict the spatial distribution of these ratios across Gwinnett County. The red indicates census tracts with a ratio of 0, which means that there are no subsidized housing units in that area. The blue indicates census tracts with a ratio over 1.09. The coloring of these maps indicate that subsidized housing is loosely clustered in northern, central, and southern portions of the county.

[9] Gwinnett County AMI was $63,219 in 2010, which would make 60 percent of AMI $37,931. Since the U.S. Census Bureau only reports households within certain income ranges, I used a household income range of $20,000-$35,000 to define a moderate-income household.

[10] Data for moderate-income households provided by U.S. Census Bureau, 2006-2010 American Community Survey, not HUD AFFH data.

FIGURE 6A: Low Income Unit-to-Household Ratios

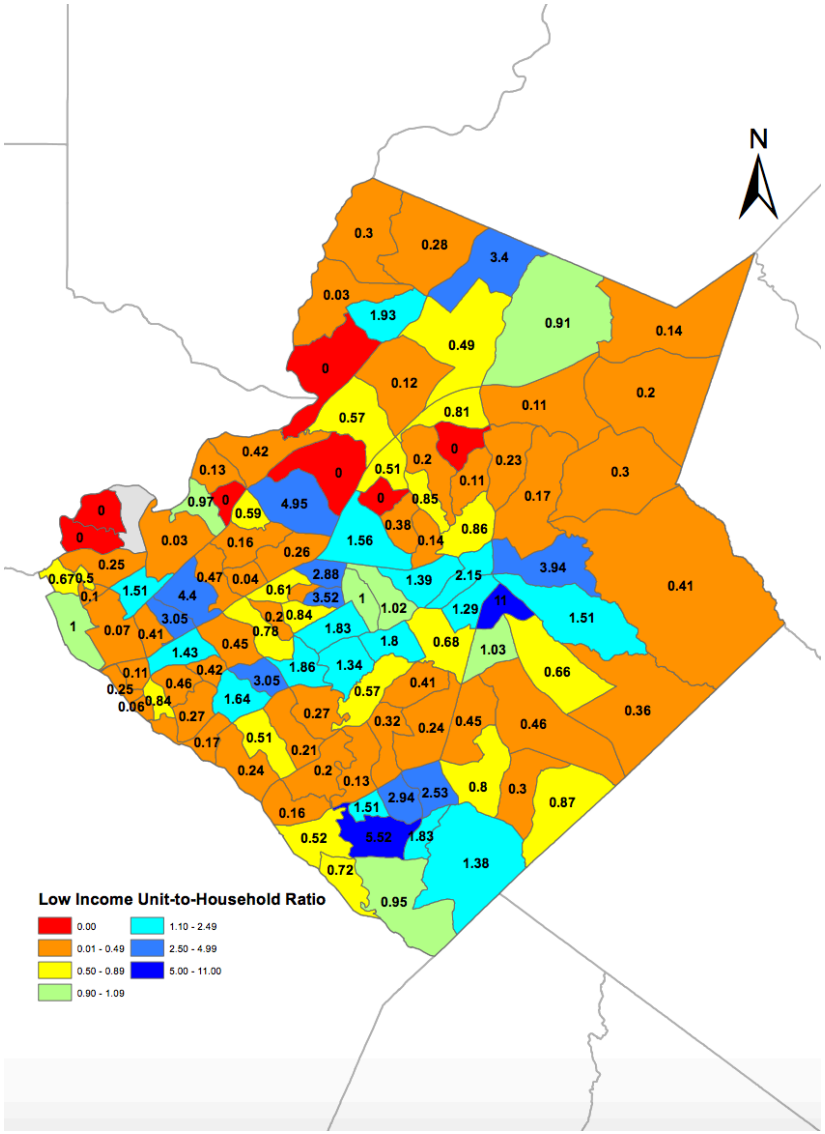
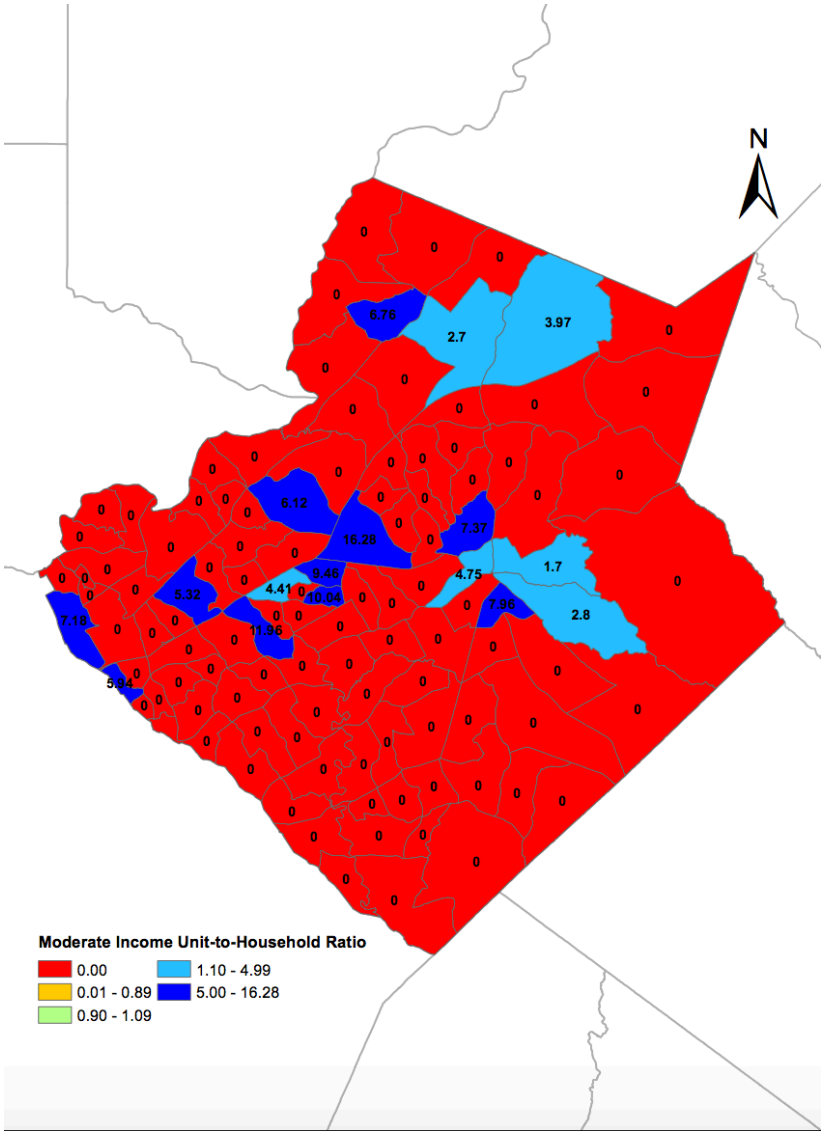


FIGURE 6B: Moderate Income Unit-to-Household Ratios



Source: Map made by author using data from 2010 American Community Survey, U.S. Census Bureau and HUD AFFH raw data

The census tracts were then grouped into quartiles based on the aforementioned indicators. For example, the top quartile for the White population indicator contained the quarter of census tracts with the highest concentration of White residents, while the bottom quartile contained the quarter of census tracts with the lowest concentration. For each quartile, the subsidized low-income housing unit count was combined as well as the low-income household count, and a new ratio was calculated to reflect the demographics of the quartile. The same process was taken for subsidized moderate-income housing units and moderate-income households. Table 5 below shows the ratio outcomes of the quartiles organized by White population concentration.

Table 5: Low-Income Housing Unit to Low-Income Household Ratio Based on White Population Concentration Quartiles[11]

	Total HCV, Public Housing, Project-Based Section 8 Units		Households With Income Less Than $20,000		Subsidy Ratio	Total LIHTC Units		Households With Income Between $20,000 and $34,999		Subsidy Ratio
Top Quartile (Highest Concentration)	155	5.2%	4668	16.8%	0.31	280	7.2%	6237	17.3%	0.41
2nd Quartile	931	31.2%	6561	23.7%	1.32	723	18.5%	7451	20.6%	0.90
3rd Quartile	1050	35.2%	6698	24.2%	1.46	1373	35.1%	9851	27.3%	1.29
Bottom Quartile (Lowest Concentration)	850	28.5%	9793	35.3%	0.81	1536	39.3%	12586	34.8%	1.13
TOTAL	2986	100.0%	27720	100.0%		3912	100.0%	36125	100.0%	

Source: Author's calculations using U.S. Census Bureau American Community Survey data and HUD AFFH data

The low-income subsidy ratio of 0.31 for the top quartile in this table suggests that there are far fewer subsidized housing opportunities for the low-income households living in those census tracts with a relatively high concentration of White residents. In other words, although these census tracts contain 16.8 percent of Gwinnett County's low-income households, they only contain 5.2 percent of its federally subsidized low-income housing units. For the mid-range quartiles (the 2nd and 3rd quartiles), the calculations return subsidy ratios of 1.32 and 1.46; these census tracts see greater subsidized low-income housing (64.4 percent) than their share of the low-income population (47.9 percent). The bottom quartile (or the quartile with the lowest concentration of White residents) has a ratio of 0.81, suggesting that these tracts do not have a disproportionate share of subsidized units compared to their low-income population.

The subsidy ratio of 0.41 comparing the top quartile moderate-income housing units to the moderate-income households suggests a similar contrast between unit distribution and household distribution to that of the top quartile low-income units and households. The next three quartiles, however, are somewhat more evenly distributed, with subsidy ratios ranging from 0.90 to 1.29. Overall, though, these results suggest that

[11] Note that quartiles are organized by census tracts with the highest concentration of residents of a race or ethnicity, not the highest count. Also, since there is an uneven number of census tracts in Gwinnett County, the quartiles are broken down so that the top, second, and third quartile always account for 28 census tracts each, and the bottom quartile accounts for 29 census tracts.

White tracts have a disproportionately smaller share of moderate-income units, even compared to the share of moderate-income households.

BENEFITS OF THE RATIO TECHNIQUE

Using the ratio technique to analyze distribution of federally subsidized housing units across the different indicators allows us to understand the different ways in which housing may be unevenly distribution with respect to the populations they are meant to serve. This method is replicable across all program participant's jurisdictions and gives them the quantitative reasoning and information they need to affect fair housing issues that they actually have control over, i.e. the location of subsidized housing. For example, program participants that calculate the ratios across their jurisdiction may find out if issues of fair housing choice exist along patterns of segregation, R/ECAPs, access to opportunities, or disproportionate housing needs, and they may try to influence the location of future subsidized housing developments to correct for these. To be able to tell, they would simply have to recalculate to ratios and observe whether or not the ratios got closer to 1.0.

Another consideration in the advantages of utilizing this method to conduct fair housing analyses and goal-setting is the open accessibility of the data that is used. Since all the data used is publicly available through HUD and the U.S. Census Bureau, all program participants should be able to conduct the analysis, regardless of size or resources. HUD strongly encourages the use of local data and local knowledge to supplement the HUD-provided data and information (U.S. Department of Housing and Urban Development, 2015), but for many smaller jurisdictions with limited resources, they may not have the knowledge or resources to collect local data and knowledge. It is also possible that useful local data for some jurisdictions may simply not exist. Relying solely on the data that is publicly available, this method can be replicated across all jurisdictions. In the following section we will complete the analysis on Gwinnett County AFFH data using the ratio technique.

A NOTE ABOUT DETAILS LEFT OUT OF THE ANALYSIS

The AFH is a multifaceted assessment meant to give users a full, comprehensive view of the fair housing issues within a jurisdiction. In order to keep these analyses and recommendations focused, a number of analysis details that jurisdictions are requested to provide in the fair housing issues analysis portion of the AFH are left out. These include:

1. National origin and limited English proficiency (or "LEP") populations: In addition to race and ethnicity, the AFFH raw data includes demographic data broken down into 130 national origin choices and 39 LEP language choices. Given Gwinnett County's large foreign-born population, analyzing these datasets may have produced interesting results but were beyond the scope of this analysis.

2. Regional analysis: Understanding that housing patterns and issues rarely develop solely within county boundaries, and instead are often shaped by regional forces, HUD asks program participants to conduct analyses that compare the general fair housing issues in their jurisdiction to their respective region (defined by metropolitan statistical areas or "MSA"). While it is true that housing demand and housing patterns do not end at a jurisdiction's borders but extend across the region (U.S. Department of Housing and Urban Development, 2015), our recommendations will ultimately focus on factors within the jurisdiction's control. Recommendations for a region would require several jurisdictions working in concert with one another, thus regional analyses were not included.
3. Contributing factors: For each of the four general issues categories in the AFH, HUD provides a list of factors that could impede fair housing and asks that program participants identify the ones that significantly create, contribute to, perpetuate, or increase the severity of the issue. This exercise is undoubtedly important to building out a jurisdiction's strategy to overcoming fair housing issues and achieving the goals it sets. However, to keep the scope of this paper focused on how to analyze AFFH data and base recommendations off of the outcomes, contributing factors were not included.

PART V: RESULTS

ANALYSIS OF SEGREGATION AND INTEGRATION ISSUES

The Black Population: The ratios calculated based on minority populations tell a consistent story to the White population discussed above. While the top quartile for the census tracts organized by concentration of the White population had an extremely low ratio of low-income subsidized housing units to low-income households (0.31), the top quartile for census tracts organized by concentration of the Black population had the opposite trend, as seen in Table 6B below. There was a much higher proportion of low-income subsidized housing units to low-income households in the census tracts with the highest concentration of Blacks (1.25). This trend also rang true for the 2nd quartile which produced a ratio of 1.30.

Similar ratios also emerged when comparing moderate-income subsidized housing units to moderate-income households for the first and second quartiles of census tracts organized by concentration of Blacks (1.18 and 1.34, respectively). Those census tracts with the lowest concentration of Black residents had a very low ratio (0.35). All of these observations suggest that federally subsidized housing units tend to be concentrated in areas with the greatest concentration of Black people.

The Hispanic Population: The results from the quartile and ratio analysis based on the Hispanic population are less definitive, with some mixing of high and low ratios between quartiles (see Table 6C). However, the lowest ratios of subsidized housing units to households for both the low-income analysis as well as the moderate-income analysis

occur in the bottom two quartiles. This suggests federally subsidized housing tends to be concentrated in areas with high concentrations of Hispanic people (though some variation in ratios imply that this is not always true).

The Asian and Pacific Islander Population: Like the Hispanic population analysis, variations in ratios across quartiles mean that less definitive trends can be gathered from the Asian and Pacific Islander quartile and ratio analysis (see Table 6D). Interestingly, for the top and third quartile, the ratio comparing low-income housing units to low-income households come very close to 1.0 (0.91 and 1.09, respectively). This suggests that within these census tracts, the distribution of subsidized low-income housing closely matches the distribution of low-income folks in the county. The quartile ratios for the moderate-income analysis are largely inconclusive as both highest and lowest quartiles produce high and low ratios. If anything, the lack of conclusive data on the census tracts organized by concentration of Asians and Pacific Islanders likely means segregation and the discriminatory siting of subsidized housing housing is not a significant issue for this demographic.

Overall, this analysis tells us that 1) subsidized housing is more likely to be located in Black and Hispanic neighborhoods and less likely to be located in White neighborhoods and 2) low- and moderate-income households that live in White neighborhoods do not have equal access to federally subsidized affordable housing.

TABLE 6A: Quartile and Ratio Analysis Based on White Population

WHITE													
	Demographic Information			Low-Income Housing Analysis					Moderate-Income Housing Analysis				
	White Population	Total Population	Percent White	Total HCV, Public Housing, Project-Based Section 8 Units		Households With Income Less Than $20,000		Subsidy Ratio	Total LIHTC Units		Households With Income Between $20,000 and $34,999		Subsidy Ratio
Top Quartile (Highest Concentration)	157,151	232,808	67.5%	155	5.2%	4,668	16.8%	0.31	280	7.2%	6,237	17.3%	0.41
2nd Quartile	105,409	202,901	52.0%	931	31.2%	6,561	23.7%	1.32	723	18.5%	7,451	20.6%	0.90
3rd Quartile	65,435	202,031	32.4%	1,050	35.2%	6,698	24.2%	1.46	1,373	35.1%	9,851	27.3%	1.29
Bottom Quartile (Lowest Concentration)	26,321	167,581	15.7%	850	28.5%	9,793	35.3%	0.81	1,536	39.3%	12,586	34.8%	1.13
TOTAL	354,316	805,321	44.0%	2,986	100.0%	27,720	100.0%	1.00	3,912	100.0%	36,125	100.0%	1.00

TABLE 6B: Quartile and Ratio Analysis Based on Black Population

BLACK													
	Demographic Information			Low-Income Housing Analysis					Moderate-Income Housing Analysis				
	Black Population	Total Population	Percent Black	Total HCV, Public Housing, Project-Based Section 8 Units		Households With Income Less Than $20,000		Subsidy Ratio	Total LIHTC Units		Households With Income Between $20,000 and $34,999		Subsidy Ratio
Top Quartile (Highest Concentration)	80,037	195,179	41.0%	986	33.0%	7,302	26.3%	1.25	1,267	32.4%	9,890	27.4%	1.18
2nd Quartile	47,428	196,564	24.1%	1,244	41.7%	8,888	32.1%	1.30	1,728	44.2%	11,898	32.9%	1.34
3rd Quartile	32,917	193,655	17.0%	541	18.1%	5,865	21.2%	0.86	388	9.9%	7,766	21.5%	0.46
Bottom Quartile (Lowest Concentration)	23,740	219,923	10.8%	215	7.2%	5,665	20.4%	0.35	529	13.5%	6,571	18.2%	0.74
TOTAL	184,122	805,321	22.9%	2,986	100.0%	27,720	100.0%	1.00	3,912	100.0%	36,125	100.0%	1.00

TABLE 6C: Quartile and Ratio Analysis Based on Hispanic Population

HISPANIC													
	Demographic Information			Low-Income Housing Analysis					Moderate-Income Housing Analysis				
	Hispanic Population	Total Population	Percent Hispanic	Total HCV, Public Housing, Project-Based Section 8 Units		Households With Income Less Than $20,000		Subsidy Ratio	Total LIHTC Units		Households With Income Between $20,000 and $34,999		Subsidy Ratio
Top Quartile (Highest Concentration)	76,084	163,712	46.5%	890	29.8%	9,034	32.6%	0.91	1,565	40.0%	11,736	32.5%	1.23
2nd Quartile	43,801	186,910	23.4%	1,387	46.5%	8,365	30.2%	1.54	1,873	47.9%	9,669	26.8%	1.79
3rd Quartile	27,133	224,988	12.1%	387	13.0%	5,636	20.3%	0.64	280	7.2%	8,552	23.7%	0.30
Bottom Quartile (Lowest Concentration)	15,017	229,711	6.5%	322	10.8%	4,685	16.9%	0.64	194	5.0%	6,168	17.1%	0.29
TOTAL	162,035	805,321	20.1%	2,986	100.0%	27,720	100.0%	1.00	3,912	100.0%	36,125	100.0%	1.00

TABLE 6D: Quartile and Ratio Analysis Based on Asian and Pacific Islander Population

ASIAN/PACIFIC ISLANDER													
	Demographic Information			Low-Income Housing Analysis					Moderate-Income Housing Analysis				
	Asian / Pacific Islander Population	Total Population	Percent Asian / Pacific Islander	Total HCV, Public Housing, Project-Based Section 8 Units		Households With Income Less Than $20,000		Subsidy Ratio	Total LIHTC Units		Households With Income Between $20,000 and $34,999		Subsidy Ratio
Top Quartile (Highest Concentration)	41,631	194,933	21.4%	696	23.3%	7,135	25.7%	0.91	1,215	31.1%	8,595	23.8%	1.31
2nd Quartile	21,544	185,108	11.6%	354	11.9%	5,964	21.5%	0.55	564	14.4%	8,369	23.2%	0.62
3rd Quartile	13,841	188,536	7.3%	751	25.2%	6,382	23.0%	1.09	1,429	36.5%	9,103	25.2%	1.45
Bottom Quartile (Lowest Concentration)	8,090	236,744	3.4%	1,185	39.7%	8,239	29.7%	1.34	704	18.0%	10,058	27.8%	0.65
TOTAL	85,106	805,321	10.6%	2,986	100.0%	27,720	100.0%	1.00	3,912	100.0%	36,125	100.0%	1.00

NOTES:

- Quartiles are ordered by highest concentration of race/ethnicity, not highest count.
- Census tract count: 1st quartile: 28; 2nd quartile: 28; 3rd quartile: 28; 4th quartile: 29

ANALYSIS OF DISPARITIES IN ACCESS TO OPPORTUNITY ISSUES

For all indicators of disparities access to opportunity, the census tracts were ranked and the quartiles were grouped based on the highest index scores. Indices were used to quantify the five different indicators, with higher scores associated with better conditions and lower scores associated with poorer conditions. The formulas for figuring the indices can be found in the Affirmatively Furthering Fair Housing (AFFH) Data Documentation published by HUD in 2015.

Low Poverty Index: As one would expect, a parallel exists between small low poverty index scores and high concentrations of low-income households. As the quartiles exhibit lower low poverty index scores from top to bottom, the proportion of households with income less than $20,000 increase. Additionally, the proportion of subsidized low-income housing units also increases as low poverty index scores decrease, which is good because it implies that they are located in the areas with the greatest need for low-income housing stock. What is bad, however, is that the top three quartiles produce ratios well below 1.0 (0.67, 0.68, and 0.79), while the bottom quartile is well above 1.0 (at 1.40). This suggests that while these census tracts may have the lowest levels of poverty, the low-income population that does reside there does not have equal access to subsidized housing opportunities. Instead, the subsidized housing opportunities are highly concentrated in the areas with the greatest poverty.

The same correlation also exists between small low poverty index scores and higher concentrations of moderate-income households. However, the difference between the top quartile ratio and the bottom quartile ratio are much more extreme, jumping from 0.0 to 1.88. Despite containing 14.6 percent of the county's moderate-income population, the top quartile with the least exposure to poverty contained no subsidized moderate-income housing units. Although the next two quartiles contained some subsidized housing for moderate-income households, nearly two-thirds (or 63.6 percent) of the housing units were in the most impoverished census tracts within the county.

Labor Market Index: As labor market index scores decrease by quartile, the proportion of the low-income housing units increase as well as the proportion of low-income households. Since the labor market index reflects the unemployment rate, the labor force participation rate, and the percent of the population with a bachelor's degree or higher, this trend gives us insight on two closely related ideas. First, it is reflective of the state of the low-income households within the labor force and suggests they are less engaged based on those criteria. Secondly, it is reflective of their exposure to greater human capital. The steady rise of the ratio comparing the proportion of subsidized low-income housing units to low-income households from 0.45 to 1.40 indicates that a much greater proportion of subsidized housing opportunities exist near areas of low labor market engagement and human capital.

Less correlation is found between the labor market index and subsidized moderate-income housing, except that the proportion of moderate-income households steadily increase from 18.8 percent to 31.3 percent as labor market index scores decrease within the quartiles. Again, this could indicate that moderate-income households are less engaged in the labor market and farther from other human capital. One other notable finding is that, like the areas with the least amount of poverty, the areas with the highest labor market engagement have no subsidized moderate-income housing, as seen in Table 7B.

Environmental Health Index: Out of all of the potential access to opportunity issues, environmental health was the least problematic. The range between the environmental health index score of the top quartile and the bottom quartile was small, suggesting fairly even environmental health quality throughout the county. There was virtually no correlation between decreasing environmental health index scores and housing patterns, with the exception of subsidized low-income housing units which rose slightly as environmental health quality got worse.

A more worrisome detail within the environmental health analysis is that the average index score for Gwinnett County is 28.3. Index scores are assigned by ranking air quality calculations nationally (Abt Associates, 2015), which means the overall environmental health quality of Gwinnett County is substantially lower than the national average. Nevertheless, since this affects the county as a whole (as opposed to just the parts nearest to subsidized housing), this indicator is not considered a fair housing issue in Gwinnett County.

Low Transportation Cost Index: Unlike the majority of the fair housing issue indicators, there is a much more favorable correlation between the low transportation cost index and subsidized low- and moderate-income housing. The majority of subsidized housing for both low- and moderate-income families are within the top two quartiles, meaning they are located within the census tracts that have lower transportation costs and better access to public transportation. Additionally, low- and moderate-income households are more likely to be located in the census tracts with lower transportation costs. However, there is no correlation between low transportation cost and the ratio comparing subsidized housing to their target population.

A notable observation within the low transportation cost analysis is that no subsidized moderate-income housing units exist in the census tracts with the highest transportation costs (the bottom quartile). It is possible that this finding could be the result of the competitive scoring process for LIHTC projects, which gives points to development projects for transportation accessibility.

Transit Trip Index: Similar to the low transportation cost index, the transit trip index scores, which measures how often low-income families use public transportation, turned out in favor of both subsidized housing and low- and moderate-income

households. 68.4 percent of subsidized low-income housing units and 81.5 percent of subsidized moderate-income housing units are located within the top two quartiles. Furthermore, 58.9 percent of low-income households and 59.9 percent of moderate-income households also reside within the top two quartiles. This suggests that low-income persons living in census tracts with a higher concentration of low- and moderate-income families living in subsidized housing are more likely to use public transportation than those living in areas with a lower concentration.

The only noteworthy observation to emerge from the ratios calculated based on the transit trip index is that, for both the low-income analysis and the moderate-income analysis, the ratios were lowest in the bottom quartile (0.69 and 0.41, respectively). This indicates that low-income people living in areas with fewer subsidized housing options for its low- and moderate-income population are less likely to take public transportation. This small detail could be important because it could point towards a positive relationship between subsidized housing and public transportation accessibility, an important service for low-income populations.

Overall, the analysis on disparities in access to opportunity was quite insightful. The results of the quartile and ratio analyses showed both positive and negative aspects of the county with regards to fair housing. With respect to the distribution of low- and moderate-income households throughout the county, a disproportionate amount of subsidized housing are located within the areas of highest poverty and lowest labor market engagement. However, both households and subsidized housing stock are located favorably in terms of low transportation costs and transit trips.

TABLE 7A: Quartile and Ratio Analysis Based on the Low Poverty Index

LOW POVERTY INDEX											
		Low-Income Housing Analysis					Moderate-Income Housing Analysis				
	Average Index Score	Total HCV, Public Housing, Project-Based Section 8		Households With Income Less Than $20,000		Subsidy Ratio	Total LIHTC Units		Households With Income Between $20,000 and $34,999		Subsidy Ratio
Top Quartile (Highest Scoring)	83.5	209	7.0%	2,893	10.4%	0.67	0	0.0%	5,283	14.6%	0.00
2nd Quartile	66.2	460	15.4%	6,267	22.6%	0.68	474	12.1%	8,856	24.5%	0.49
3rd Quartile	45.0	663	22.2%	7,751	28.0%	0.79	950	24.3%	9,743	27.0%	0.90
Bottom Quartile (Lowest Scoring)	18.9	1,654	55.4%	10,809	39.0%	1.42	2,488	63.6%	12,243	33.9%	1.88
TOTAL	53.1	2,986	100.0%	27,720	100.0%	1.00	3,912	100.0%	36,125	100.0%	1.00

TABLE 7B: Quartile and Ratio Analysis Based on the Labor Market Index

LABOR MARKET INDEX											
		Low-Income Housing Analysis					Moderate-Income Housing Analysis				
	Average Index Score	Total HCV, Public Housing, Project-Based Section 8		Households With Income Less Than $20,000		Subsidy Ratio	Total LIHTC Units		Households With Income Between $20,000 and $34,999		Subsidy Ratio
Top Quartile (Highest Scoring)	85.3	199	6.7%	4,070	14.7%	0.45	0	0.0%	6,799	18.8%	0.00
2nd Quartile	70.2	505	16.9%	6,358	22.9%	0.74	1,140	29.1%	8,601	23.8%	1.22
3rd Quartile	57.9	778	26.1%	7,323	26.4%	0.99	1,469	37.6%	9,409	26.0%	1.44
Bottom Quartile (Lowest Scoring)	36.7	1,504	50.4%	9,969	36.0%	1.40	1,303	33.3%	11,316	31.3%	1.06
TOTAL	62.3	2,986	100.0%	27,720	100.0%	1.00	3,912	100.0%	36,125	100.0%	1.00

TABLE 7C: Quartile and Ratio Analysis Based on the Environmental Health Index

ENVIRONMENTAL HEALTH INDEX											
		Low-Income Housing Analysis					Moderate-Income Housing Analysis				
	Average Index Score	Total HCV, Public Housing, Project-Based Section 8		Households With Income Less Than $20,000		Subsidy Ratio	Total LIHTC Units		Households With Income Between $20,000 and $34,999		Subsidy Ratio
Top Quartile (Highest Scoring)	39.0	523	17.5%	7,009	25.3%	0.69	834	21.3%	8,045	22.3%	0.96
2nd Quartile	32.0	668	22.4%	6,455	23.3%	0.96	1,220	31.2%	8,013	22.2%	1.41
3rd Quartile	26.5	850	28.5%	5,557	20.0%	1.42	931	23.8%	8,354	23.1%	1.03
Bottom Quartile (Lowest Scoring)	16.2	945	31.6%	8,699	31.4%	1.01	927	23.7%	11,713	32.4%	0.73
TOTAL	28.3	2,986	100.0%	27,720	100.0%	1.00	3,912	100.0%	36,125	100.0%	1.00

TABLE 7D: Quartile and Ratio Analysis Based on the Low Transportation Cost Index

LOW TRANSPORTATION COST INDEX											
		Low-Income Housing Analysis					Moderate-Income Housing Analysis				
	Average Index Score	Total HCV, Public Housing, Project-Based Section 8		Households With Income Less Than $20,000		Subsidy Ratio	Total LIHTC Units		Households With Income Between $20,000 and $34,999		Subsidy Ratio
Top Quartile (Highest Scoring)	66.6	838	28.1%	10,149	36.6%	0.77	1,353	34.6%	12,977	35.9%	0.96
2nd Quartile	48.1	1,175	39.4%	6,639	24.0%	1.64	1,786	45.7%	8,642	23.9%	1.91
3rd Quartile	30.9	690	23.1%	6,549	23.6%	0.98	773	19.8%	8,270	22.9%	0.86
Bottom Quartile (Lowest Scoring)	21.4	283	9.5%	4,383	15.8%	0.60	0	0.0%	6,236	17.3%	0.00
TOTAL	41.6	2,986	100.0%	27,720	100.0%	1.00	3,912	100.0%	36,125	100.0%	1.00

TABLE 7E: Quartile and Ratio Analysis Based on the Transit Trip Index

TRANSIT TRIP INDEX											
		Low-Income Housing Analysis					Moderate-Income Housing Analysis				
	Average Index Score	Total HCV, Public Housing, Project-Based Section 8		Households With Income Less Than $20,000		Subsidy Ratio	Total LIHTC Units		Households With Income Between $20,000 and $34,999		Subsidy Ratio
Top Quartile (Highest Scoring)	84.5	831	27.8%	9,671	34.9%	0.80	1,198	30.6%	12,728	35.2%	0.87
2nd Quartile	73.3	1,213	40.6%	6,660	24.0%	1.69	1,991	50.9%	8,906	24.7%	2.06
3rd Quartile	64.3	420	14.1%	4,410	15.9%	0.88	324	8.3%	5,531	15.3%	0.54
Bottom Quartile (Lowest Scoring)	49.7	522	17.5%	6,979	25.2%	0.69	399	10.2%	8,960	24.8%	0.41
TOTAL	67.8	2,986	100.0%	27,720	100.0%	1.00	3,912	100.0%	36,125	100.0%	1.00

NOTES:

- Low Poverty Index: a higher score indicates less exposure to poverty
- Labor Market Index: a measure of unemployment rate, labor force participation rate, and percentage of the population with a bachelor's degree or higher. The higher the score, the higher the LFP and human capital.
- Environmental Health Index: measures exposure based on EPA estimates of air quality. The higher the index value, the less exposure to toxins harmful to human health.
- Low Transportation Cost Index: measures cost of transport and proximity to public transportation. The higher the index, the lower the cost of transportation.
- Transit Trip Index: measures how often LI families in a neighborhood use public transportation. The higher the index, the more likely residents utilize public transit.

ANALYSIS OF DISPROPORTIONATE HOUSING NEEDS ISSUES

In the AFH, an area's housing needs are defined by its housing problems and housing cost burden. Each of the three indicators that fall within "housing needs" are measured by counting the number of households within a census tract that meet the description of the indicator.

Households with One or More Housing Problems: Over one in three households (or 38.9 percent) in Gwinnett County have one or more housing problems, and they are disproportionately concentrated in the areas with subsidized housing and low- and moderate-income households, as seen in Table 8A. However, the top and the third quartile produce ratios very close to 1.0, suggesting proportionality between the distribution of low-income housing units and the distribution of low-income households when organized by housing problems. Furthermore, though there is correlation between increased housing problems and increased subsidized housing, this suggests housing problems are not so much a fair housing issue as much as a potential subsidized housing quality issue. For moderate-income housing, there is a stark difference in the ratios between the top two quartiles (1.27 and 1.42) and the bottom two quartiles (0.69 and 0.23).

Households with One or More Severe Housing Problems: Trends somewhat similar to the previous analysis emerged when census tracts were organized by households with one or more severe housing problems. While few households face severe housing problems (about one in five households), there is still a direct correlation between severe housing problems and subsidized housing. Additionally, the highest concentration of households with severe housing problems correlate with the highest proportions of low- and moderate-income households.

Households with Severe Housing Cost Burden: Again, this analysis shows a strong correlation between higher concentrations of severe housing cost burden and subsidized housing as well as low- and moderate-income populations but the ratio results are inconclusive.

In measuring the ratios based on these different housing need, I find that they are not as useful as directly comparing the proportion of households with housing needs to the proportion of subsidized housing or to the proportion of low- and moderate-income households. The only exception to this is the pattern that emerges when all three indicators are considered together; in each analysis, the bottom quartile always had the lowest ratio, and it was always very low (ranging from 0.20 to 0.52). This indicates the census tracts with the lowest housing needs also provide the least amount of subsidized housing opportunities for their low- and moderate-income residents.

TABLE 8A: Quartile and Ratio Analysis Based on Households with One or More Housing Problems

HOUSEHOLDS WITH ONE OR MORE HOUSING PROBLEMS													
	Households			Total HCV, Public Housing, Project-Based Section 8 Units		Households With Income Less Than $20,000		Subsidy Ratio	Total LIHTC Units		Households With Income Between $20,000 and $34,999		Subsidy Ratio
Top Quartile (Highest Concentration)	27,340	51,275	53.3%	992	33.2%	9,239	33.3%	1.00	1,512	38.7%	10,973	30.4%	1.27
2nd Quartile	26,865	65,139	41.2%	987	33.1%	7,616	27.5%	1.20	1,509	38.6%	9,815	27.2%	1.42
3rd Quartile	28,660	80,245	35.7%	790	26.5%	7,004	25.3%	1.05	761	19.5%	10,120	28.0%	0.69
Bottom Quartile (Lowest Concentration)	19,093	65,490	29.2%	217	7.3%	3,861	13.9%	0.52	130	3.3%	5,217	14.4%	0.23
TOTAL	101,958	262,149	38.9%	2,986	100.0%	27,720	100.0%		3,912	100.0%	36,125	100.0%	

TABLE 8B: Quartile and Ratio Analysis Based on Households with One or More Severe Housing Problems

HOUSEHOLDS WITH ONE OR MORE SEVERE HOUSING PROBLEMS													
	Households			Total HCV, Public Housing, Project-Based Section 8 Units		Households With Income Less Than $20,000		Subsidy Ratio	Total LIHTC Units		Households With Income Between $20,000 and $34,999		Subsidy Ratio
Top Quartile (Highest Concentration)	17,325	56,330	30.8%	1,185	39.7%	10,546	38.0%	1.04	2,403	61.4%	12,137	33.6%	1.83
2nd Quartile	13,305	62,679	21.2%	754	25.3%	7,241	26.1%	0.97	453	11.6%	9,747	27.0%	0.43
3rd Quartile	12,137	74,760	16.2%	819	27.4%	5,751	20.7%	1.32	926	23.7%	8,157	22.6%	1.05
Bottom Quartile (Lowest Concentration)	7,789	68,380	11.4%	228	7.6%	4,182	15.1%	0.51	130	3.3%	6,084	16.8%	0.20
TOTAL	50,556	262,149	19.3%	2,986	100.0%	27,720	100.0%		3,912	100.0%	36,125	100.0%	

TABLE 8C: Quartile and Ratio Analysis Based on Households with Severe Housing Cost Burden

HOUSEHOLDS WITH SEVERE HOUSING COST BURDEN													
	Households			Total HCV, Public Housing, Project-Based Section 8 Units		Households With Income Less Than $20,000		Subsidy Ratio	Total LIHTC Units		Households With Income Between $20,000 and $34,999		Subsidy Ratio
Top Quartile (Highest Concentration)	13,427	54,580	24.6%	1,038	34.8%	9,916	35.8%	0.97	1,871	47.8%	11,235	31.1%	1.54
2nd Quartile	12,611	68,849	18.3%	926	31.0%	7,344	26.5%	1.17	866	22.1%	10,258	28.4%	0.78
3rd Quartile	10,263	71,840	14.3%	807	27.0%	6,400	23.1%	1.17	1,045	26.7%	8,925	24.7%	1.08
Bottom Quartile (Lowest Concentration)	6,958	66,880	10.4%	215	7.2%	4,060	14.6%	0.49	130	3.3%	5,707	15.8%	0.21
TOTAL	43,259	262,149	16.5%	2,986	100.0%	27,720	100.0%		3,912	100.0%	36,125	100.0%	

NOTES:

- Quartiles are ordered by highest concentration of housing need, not highest count.
- Census tract count: 1st quartile: 28; 2nd quartile: 28; 3rd quartile: 28; 4th quartile: 29

PART VI: DISCUSSION OF FINDINGS

What the ratio does (and does not) mean: The meaning of the ratios can be easily confused with a comparison of the number of subsidized housing units to the number of low- and moderate-income households; however, it is critical to remember that the ratio is a comparison of the *proportion* of the county's subsidized housing units within the census tract to its *proportion* of the county's low- and moderate-income households. It does not tell us whether the supply of subsidized housing meets the theoretical demand; it only suggests whether or not they are not distributed in the same way their target population is distributed throughout the county.

However, this brings up an interesting housing research question about subsidized housing supply and demand. The data demonstrates that theoretical subsidized housing demand (defined by the number of low- and moderate-income households) far outstrips subsidized housing supply. The county contains 27,720 households with incomes less than $20,000, but only provides 2,986 subsidized low-income housing units. The county also has 36,125 households with incomes between $20,000 and $35,000, but only provides about 3,912 subsidized moderate-income housing units. For those low- and moderate-income households who do not live in subsidized housing, what are their options for meeting their housing needs? As Table 8C suggests, many likely have severe housing cost burdens, paying over 30 percent of their income towards housing. Another possibility is that the private market provides some affordable housing options. Answering this question would require further research but would provide valuable insight on how low- and moderate-income families are getting by without the use of government subsidies.

Other inferences from findings: Using the quartile and ratio analysis on the low- and moderate-income housing patterns provides valuable quantitative insight on the fair housing issues affecting Gwinnett County. Further insights about the state of the county's housing affairs beyond fair housing issues can be drawn from the analysis findings. For example, the high concentration of subsidized housing in minority neighborhoods could be reflective of the historic discriminatory practices of subsidized housing siting in which local governments intentionally placed public housing projects in poor, segregated neighborhoods (Hays, 2012). These are the exact discriminatory practices that the AFFH mandate was established to overcome.

Despite this, the siting of subsidized housing in low-income communities is still a common occurrence. Although the LIHTC program, established in 1986 as part of the Tax Reform Act, was created more recently than the other subsidized housing programs, the analysis of the low poverty index demonstrates that subsidized housing is still often built in areas of low-income communities. Given the recent shifts in the racial and ethnic make-up of the county, from a county that was nearly 90 percent White in 1990 to one that was only 44 percent White in 2010, it is more difficult to tell if the siting of Gwinnett's subsidized housing siting was also racially discriminatory (in addition to

economically discriminatory). Nevertheless, with the federal government's renewed interest in fair housing as exhibited by the more robust AFFH policy and last year's Supreme Court case on disparate impact, program participants will need to act more conscientiously when making decisions about subsidized housing siting.

Criticism of indices: While the indices provide program participants with easily digestible measures of their given indicators, their actual depth and strength as measures of issues are weakened by the fact that they are national rankings of a different score computed based on more technical and substantial measures of the indicator. For example, the low poverty index is simply based on poverty rate in a given area. However, the index score only reflects how an area's poverty level ranks nationally and says less about the actual level of poverty. There is no way to be sure what is considered a "good" score and what is considered a "bad" score. Users only know if the issue is better or worse one place relative to another place.

PART VII: RECOMMENDATIONS

In the race and ethnicity analysis, subsidized housing is clearly concentrated in or near Black and Hispanic communities and is less likely to be located near White residents. For fair housing goal-setting, the ratio is especially helpful because it provides a consistent, logical measure for improvement. If a jurisdiction were to set a goal for reducing the segregation of subsidized housing based on census tract demographics, they may set a goal of increasing the number of subsidized housing units in White neighborhoods by some number that is realistic in the given context, but otherwise arbitrary. If they were to utilize the ratio in order to help them set their goal, they would have a much more useful metric of improvement in fair housing. By tracking improvement in the ratio, jurisdictions can ensure against disparate impact[12] but also ensure that the selection of subsidized housing location is bolstered by the fact that the decision was partially based on the distribution of low- and moderate-income residents throughout the county.

The most ideal ratio for any of the indicators is 1.0 because it indicates subsidized housing is evenly distributed based on the distribution of the target population. In the case of the segregation and integration issues, a ratio of 1.0 indicates that subsidized housing is not segregated by the given race or ethnicity. Thus, in order to address the issue of segregation in subsidized housing, a sound theoretical goal for Gwinnett County would be to bring the ratio for the top quartile of census tracts with the greatest concentrations of White residents up to 1.0. In order to do that, Gwinnett County would

[12] Disparate impact is a legal doctrine under the Fair Housing Act which states that a policy, regardless of intent, may be considered discriminatory if it has a disproportionate "adverse impact" against any group based on race, national origin, color, religion, sex, familial status, or disability when there is no legitimate, non-discriminatory business need for the policy (National Fair Housing Alliance, 2015).

have to add 412 subsidized low-income housing units and 479 moderate-income housing units to those top 28 census tracts. See Appendix A for the calculations.

The 1.0 ratio goal could also be applied to the analysis on disparities in access to opportunity. The quartile and ratio analysis for this set of issues found that subsidized housing was concentrated in the areas of highest poverty and lowest labor market engagement. In order to provide residents of subsidized housing with more equal access to opportunity, Gwinnett County could logically aim to reach a ratio of 1.0 in the 28 census tracts with the lowest poverty and the highest labor market engagement. Again, such goals are further justified by the fact that there are already low- and moderate-income residents in these areas who would qualify to live in subsidized housing but currently have less of a chance of acquiring it since so few units currently exist around them.

Since program participants are required to resubmit an AFH every five years in conjunction with their Consolidated Plan cycle and they also have to report on the progress that has been made on the goals of their previous AFH, a ratio of 1.0 may not be attainable if it requires the construction of 400 subsidized housing units over the span of five years. However, even if program participants can't achieve 1.0, they can still use the ratio analysis to measure their improvement based on the subsidized housing that is added to the jurisdiction over that time period. To be able to show that they have made improvements in desegregating subsidized housing or their proximity to access to opportunity and are actively working to further fair housing are still valuable indications of progress.

The following three maps highlight the 28 census tracts in the top quartile based on concentration of White residents, low poverty, and labor force participation. Since each of these indicator provided low ratios in their top quartile, meaning a low proportion of the county's subsidized housing stock, these would be ideal target areas for future subsidized housing. See Appendix B for the data used in creating the maps.

FIGURE 6A: Quartiles Ranked by Concentration of White Residents

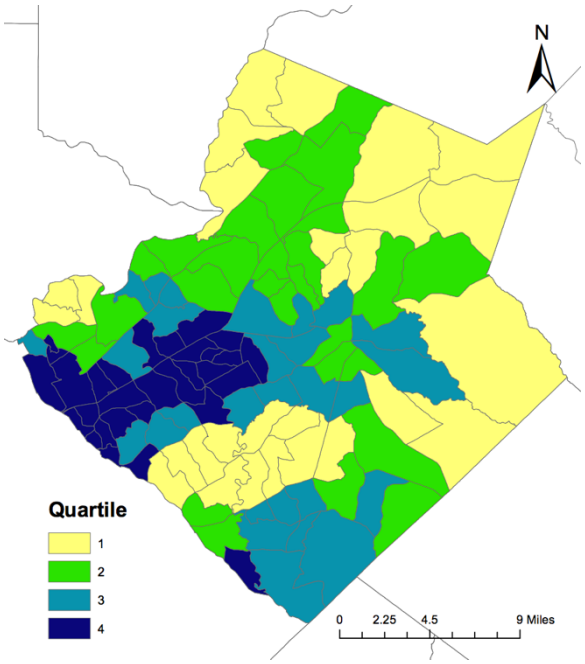


FIGURE 6B: Quartiles Ranked by Labor Market Index

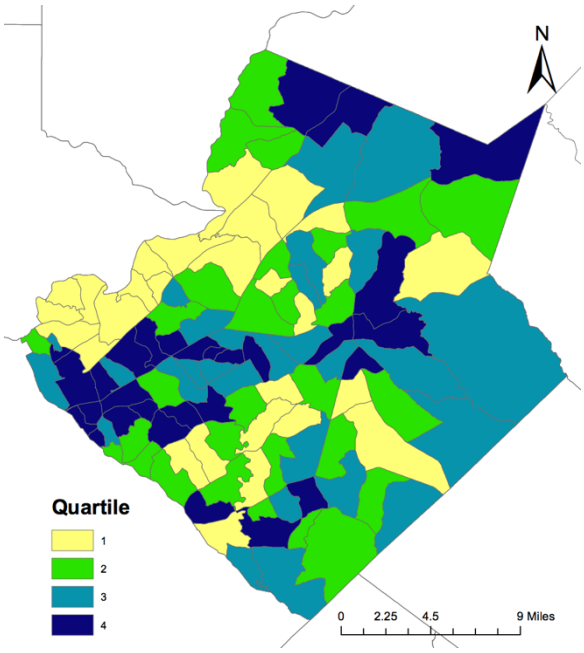
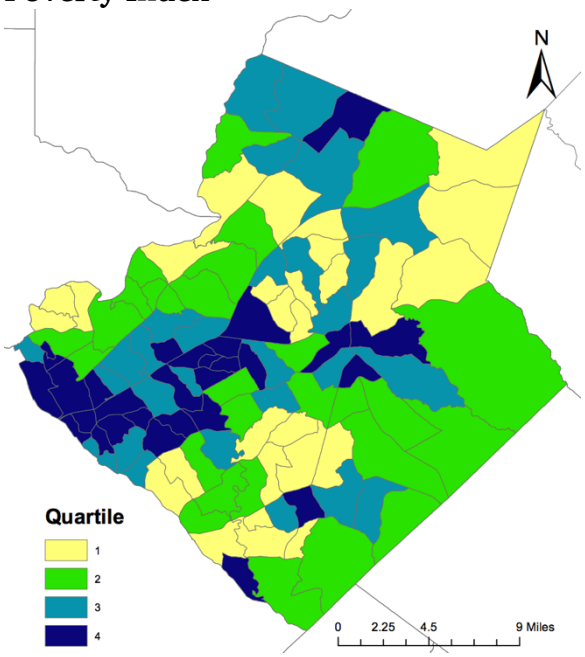


FIGURE 6C: Quartiles Ranked by Low Poverty Index



Obviously, one cannot try to improve the ratio that is based on race and ethnicity by adding subsidized housing to a set of census tracts without affecting the results for other fair housing issues. This could be addressed in a number of ways. Gwinnett County could use another set of criteria to prioritize the issues they want to address first and foremost and base their siting decisions on the highest priority issue. They could also identify the census tracts that rank highly on all the issues that have been identified as barriers to fair housing in Gwinnett County (including segregation, poverty, and labor market engagement) and target those census tracts as locations for future subsidized housing.

Siting of subsidized housing is not the only way to address fair housing issues, however, as it can often be impeded by zoning regulations or community opposition. To address the issues of disparities in access to opportunity, the program participant could also make goals around alleviating some of the issues found in the areas around subsidized housing by implementing a targeted strategy around the issue, whether it's poverty, employment, environmental health or transportation. An important concern with strategies focused on fixing the issue rather than determining better locations for future subsidized housing is that they may be more difficult to affect or track. For example, trying to improve employment opportunities for the residents of a certain area within the county would likely be extremely challenging and complicated, since such a strategy would have to involve employers and workforce training opportunities.

Another closely related concern is whether or not the program participant has the power to affect these issues. To tackle issues of environmental health or transportation, other departments outside of housing or even local government need to be involved. The issue may simply be outside of the scope of the program participant's power. Given these reasons, goals around the location of future subsidized housing may often be the most practical type of goal.

PART VIII: CONCLUSION

Acquiring a better understanding of the fair housing issues within a jurisdiction and setting sound goals based on evidence of fair housing issues derived from trustworthy data is a fundamental component of the AFH. As HUD intensifies its interest and oversight on program participants' meaningful actions towards overcoming barriers to fair housing, program participants will be held to higher standards in their assessment of fair housing in their jurisdiction and their decision-making. The quartile and ratio analysis of AFFH raw data provides a sound method for identifying the major fair housing issues within a jurisdiction and creating measurable, functional benchmarks. In Gwinnett County, the major fair housing issues were around segregation, poverty, and labor market participation. Target areas for future subsidized housing siting were identified based on the quartile analysis and goals for additional subsidized housing units were made based on achieving a more favorable ratio. This simple yet sophisticated

method prevents program participants from arbitrary decision-making and allows them to be more informed on how they can positively affect fair housing change for their constituents.

This method could be further utilized to compare counties within a region. One could better understand the patterns that emerge region-wide and assess whether there ought to be a region-wide strategy for combatting barriers to fair housing in conjunction with local strategies. Being able to compare conditions within one's own jurisdiction to that of others and understanding how a county fares relative to its neighbors could also help with creating more realistic goals. For example, if the average ratio for the top "concentration of White residents" quartiles in counties across the Atlanta Metro region is 0.7, perhaps a ratio of 0.7 would be more reasonable than 1.0, although 1.0 is the standard ideal. While the method is not an all-encompassing solution to goal-setting and further consideration needs to be given to some of the finer details, the potential to positively impact housing opportunity using this form of analysis is significant and wide-ranging.

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APPENDIX A

WHITE							
	Low-Income Housing Analysis						
	Total HCV, Public Housing, Project-Based Section Units				Households With Income Less Than $20,000		Subsidy Ratio
	Current	Add	Total	Percentage			
Top Quartile (Highest Concentration)	155	418	573	16.8%	4,668	16.8%	1.00
2nd Quartile	931	0	931	27.4%	6,561	23.7%	1.16
3rd Quartile	1,050	0	1,050	30.8%	6,698	24.2%	1.28
Bottom Quartile (Lowest Concentration)	850	0	850	25.0%	9,793	35.3%	0.71
TOTAL	2,986	418	3,404	100.0%	27,720	100.0%	1.00

WHITE							
	Moderate-Income Housing Analysis						
	Total LIHTC Units				Households With Income Between $20,000 and $34,999		Subsidy Ratio
	Current	Add	Total	Percentage			
Top Quartile (Highest Concentration)	280	479	759	17.3%	6,237	17.3%	1.00
2nd Quartile	723	0	723	16.5%	7,451	20.6%	0.80
3rd Quartile	1,373	0	1,373	31.3%	9,851	27.3%	1.15
Bottom Quartile (Lowest Concentration)	1,536	0	1,536	35.0%	12,586	34.8%	1.00
TOTAL	3,912	479	4,391	100.0%	36,125	100.0%	1.00

APPENDIX B

Top White	Percent White	Quartile White	Top Low Poverty	LPI Score	Quartile LPI	Labor Force Participation	LMI Score	Quartile LMI
13135050321	86.66%	1	13135050308	99	1	13135050308	97	1
13135050322	83.74%	1	13135050321	97	1	13135050214	92	1
13135050610	77.72%	1	13135050722	92	1	13135050321	91	1
13135050308	77.38%	1	13135050212	91	1	13135050212	91	1
13135050718	71.81%	1	13135050720	91	1	13135050213	91	1
13135050212	71.28%	1	13135050715	88	1	13135050311	90	1
13135050108	70.49%	1	13135050713	87	1	13135050713	89	1
13135050426	70.35%	1	13135050527	87	1	13135050219	88	1
13135050609	69.97%	1	13135050322	87	1	13135050712	87	1
13135050429	68.93%	1	13135050426	87	1	13135050310	87	1
13135050726	68.54%	1	13135050712	85	1	13135050425	86	1
13135050713	68.29%	1	13135050425	84	1	13135050309	86	1
13135050425	66.94%	1	13135050549	83	1	13135050210	85	1
13135050107	66.83%	1	13135050718	83	1	13135050205	85	1
13135050712	66.82%	1	13135050208	82	1	13135050527	84	1
13135050720	66.79%	1	13135050723	81	1	13135050530	84	1
13135050528	65.16%	1	13135050214	80	1	13135050714	84	1
13135050608	64.78%	1	13135050610	80	1	13135050428	84	1
13135050427	64.72%	1	13135050729	80	1	13135050220	84	1
13135050727	63.86%	1	13135050528	79	1	13135050322	82	1
13135050714	63.33%	1	13135050538	79	1	13135050415	82	1
13135050606	62.71%	1	13135050540	78	1	13135050543	82	1
13135050527	62.69%	1	13135050609	78	1	13135050724	81	1
13135050547	62.49%	1	13135050415	77	1	13135050540	80	1
13135050605	62.44%	1	13135050548	77	1	13135050532	80	1
13135050103	60.93%	1	13135050213	76	1	13135050607	79	1
13135050715	60.43%	1	13135050607	76	1	13135050216	79	1
13135050428	59.07%	1	13135050530	75	1	13135050208	78	1
13135050607	58.50%	2	13135050608	75	2	13135050610	78	2
13135050106	57.57%	2	13135050219	74	2	13135050528	78	2
13135050210	56.73%	2	13135050724	74	2	13135050538	77	2
13135050311	56.73%	2	13135050533	74	2	13135050209	76	2
13135050430	56.57%	2	13135050714	72	2	13135050217	75	2
13135050109	54.89%	2	13135050210	71	2	13135050431	75	2
13135050525	54.73%	2	13135050428	70	2	13135050730	75	2
13135050310	54.67%	2	13135050205	69	2	13135050544	74	2

13135050724	53.66%	2	13135050216	69	2	13135050424	73	2
13135050538	53.49%	2	13135050218	69	2	13135050427	73	2
13135050548	53.03%	2	13135050543	68	2	13135050720	71	2
13135050214	52.86%	2	13135050709	68	2	13135050429	71	2
13135050721	52.59%	2	13135050531	67	2	13135050315	70	2
13135050530	52.28%	2	13135050731	65	2	13135050109	69	2
13135050213	51.55%	2	13135050726	65	2	13135050531	68	2
13135050309	51.03%	2	13135050728	64	2	13135050728	68	2
13135050731	50.23%	2	13135050311	63	2	13135050108	68	2
13135050205	49.64%	2	13135050606	63	2	13135050523	68	2
13135050549	49.58%	2	13135050430	63	2	13135050727	67	2
13135050521	47.99%	2	13135050220	62	2	13135050605	67	2
13135050208	47.98%	2	13135050429	62	2	13135050511	67	2
13135050217	47.72%	2	13135050108	62	2	13135050722	66	2
13135050415	47.46%	2	13135050727	62	2	13135050426	66	2
13135050105	47.25%	2	13135050310	61	2	13135050529	66	2
13135050522	45.33%	2	13135050544	61	2	13135050715	65	2
13135050529	44.63%	2	13135050309	60	2	13135050107	65	2
13135050216	43.58%	2	13135050217	60	2	13135050432	65	2
13135050520	42.33%	2	13135050536	60	2	13135050729	64	2
13135050543	40.22%	3	13135050547	56	3	13135050215	64	3
13135050218	40.18%	3	13135050526	56	3	13135050318	64	3
13135050523	40.17%	3	13135050605	55	3	13135050549	63	3
13135050730	39.92%	3	13135050529	55	3	13135050533	63	3
13135050540	39.83%	3	13135050424	53	3	13135050218	63	3
13135050219	39.76%	3	13135050109	53	3	13135050525	63	3
13135050220	37.97%	3	13135050209	52	3	13135050718	62	3
13135050729	36.43%	3	13135050525	52	3	13135050536	62	3
13135050209	36.38%	3	13135050725	52	3	13135050547	62	3
13135050719	36.08%	3	13135050319	51	3	13135050319	62	3
13135050544	35.80%	3	13135050523	49	3	13135050537	62	3
13135050725	34.18%	3	13135050103	45	3	13135050731	61	3
13135050722	33.05%	3	13135050433	45	3	13135050524	61	3
13135050531	32.11%	3	13135050532	43	3	13135050608	59	3
13135050546	31.73%	3	13135050535	43	3	13135050106	58	3
13135050315	30.97%	3	13135050427	42	3	13135050606	57	3
13135050432	30.53%	3	13135050107	42	3	13135050526	57	3
13135050535	29.40%	3	13135050721	42	3	13135050725	57	3
13135050313	28.95%	3	13135050431	41	3	13135050535	57	3
13135050728	28.90%	3	13135050546	41	3	13135050726	56	3

13135050545	28.89%	3	13135050314	41	3	13135050416	54	3
13135050709	28.76%	3	13135050315	39	3	13135050423	54	3
13135050511	28.09%	3	13135050215	38	3	13135050434	53	3
13135050723	27.22%	3	13135050730	36	3	13135050721	51	3
13135050532	27.02%	3	13135050313	36	3	13135050304	50	3
13135050410	26.94%	3	13135050432	34	3	13135050546	49	3
13135050536	26.85%	3	13135050106	34	3	13135050521	49	3
13135050435	26.03%	3	13135050521	34	3	13135050709	48	3
13135050314	25.16%	4	13135050719	34	4	13135050609	47	4
13135050416	25.14%	4	13135050545	33	4	13135050313	47	4
13135050524	22.99%	4	13135050511	32	4	13135050103	46	4
13135050534	22.92%	4	13135050524	30	4	13135050545	46	4
13135050436	22.34%	4	13135050416	29	4	13135050211	46	4
13135050433	20.82%	4	13135050539	28	4	13135050418	45	4
13135050304	19.00%	4	13135050410	28	4	13135050522	45	4
13135050526	18.83%	4	13135050418	27	4	13135050430	44	4
13135050431	18.59%	4	13135050534	27	4	13135050539	44	4
13135050318	18.08%	4	13135050522	25	4	13135050317	42	4
13135050423	17.34%	4	13135050537	24	4	13135050723	40	4
13135050306	16.82%	4	13135050423	21	4	13135050433	40	4
13135050419	16.47%	4	13135050317	21	4	13135050534	38	4
13135050533	16.23%	4	13135050436	21	4	13135050422	38	4
13135050215	15.75%	4	13135050542	20	4	13135050435	38	4
13135050539	14.60%	4	13135050520	19	4	13135050410	37	4
13135050424	14.19%	4	13135050419	18	4	13135050542	37	4
13135050317	13.66%	4	13135050318	17	4	13135050520	37	4
13135050542	13.52%	4	13135050421	17	4	13135050421	37	4
13135050320	12.72%	4	13135050306	13	4	13135050436	36	4
13135050537	12.70%	4	13135050422	12	4	13135050314	35	4
13135050211	11.99%	4	13135050435	11	4	13135050320	33	4
13135050422	10.96%	4	13135050211	9	4	13135050719	32	4
13135050319	10.51%	4	13135050434	7	4	13135050306	31	4
13135050421	10.40%	4	13135050417	7	4	13135050419	28	4
13135050541	9.64%	4	13135050105	7	4	13135050548	27	4
13135050434	9.59%	4	13135050304	5	4	13135050417	21	4
13135050418	8.50%	4	13135050320	4	4	13135050105	19	4
13135050417	8.37%	4	13135050541	3	4	13135050541	8	4